HYDROLOGY L19/D13 ONE PLAN

L19/D13

1 PLAN

DRAINAGE REPORT
FOR
LOT 1, BLOCK 26
EMIL MANN SUBDIVISION
ALBUQUERQUE, NEW MEXICO

600 Charleston St. S.E.
4-19-86

BY:
A & E ENGINEERING, INC.
5823 LOMAS BLVD. NE
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GENERAL:

This drainage report consists of a hydrologic study of a probable 100-year storm affecting this proposed development on the south east corner of the Charleston Avenue S.E. and Trumbull Avenue S.E. intersection.

LOCATION AND DESCRIPTION:

The property under study is a parcel of land zoned residential (R-2), and contains approximately six-thousand, seven-hundred and fifty (6,750) square feet. It is located at the southeast corner of the intersection of Charleston Avenue S.E. and Trumbull Avenue S.E., and slopes to the west with about 1.48% slope. This property is more particulerly described as Lot 1 of Block 26 of the Emil Mann Subdivision.

PROPOSED DEVELOPMENT AND DRAINAGE PLANS:

This parcel of land is to be devevoped into a fourplex apartment. It will be graded, paved, and landscaped to retain the excees storm runoff created by the development of this property. A ponding area will be provided north of the apartment building to contain this excess runoff. The paved parking area on the west end of the lot will drain a portion of its storm runoff onto Charleston Avenue, the volume of this runoff will not exceed the total undeveloped runoff of this lot.

DISCUSSION OF METHOD:

Development of this area will be controled by the guidelines set forth in the recent Resolution of the Albuquerque Mertopolitan Arroyo Flood Control Authority and the City of Albuquerque.

The amount of storm water is computed using a 100-year storm, this being a storm consisting of 100-year 6 hours precipitation as shown by the rainfall frequency maps for New Mexico, June 1967, published by the Special Studies Branch Office of Hydrology, United States Weather Bureau.

The pond area was calculated so that the volume of water ponded would exceed the increased volume runoff resulting from the development.

OFF-SITE DRAINAGE

There is no off-site drainage on this project.

ON-SITE DRAINAGE CALCULATIONS:

The 100-year 6 hour precipitation factor for this area is 2.8 inches.
The area is 6,750 square feet.
Volume of runoff before development, allowing 65% perculation:

$$\frac{2.8}{12} \times 6750 \text{ sq. ft.} \times 0.35 = 551.25 \text{ cu. ft.}$$

Volume of runoff after development:

Landscaped areas (grassed and rock gravel)

$$\frac{2.8}{12} \times 2215.5 \text{ sq. ft.} \times 0.35 = 180.93 \text{ cu. ft.}$$

Paved areas (driveways, building and parking lot)

$$\frac{2.8}{12} \times 4534.5 \text{ sq. ft.} \times 1.00 = 1058.05 \text{ cu. ft.}$$

Runoff after development	=	1,238.98 cu. ft.
Runoff before development	=	551.25 cu. ft.
Runoff to be retained on site and ponded	=	687.73 cu. ft.

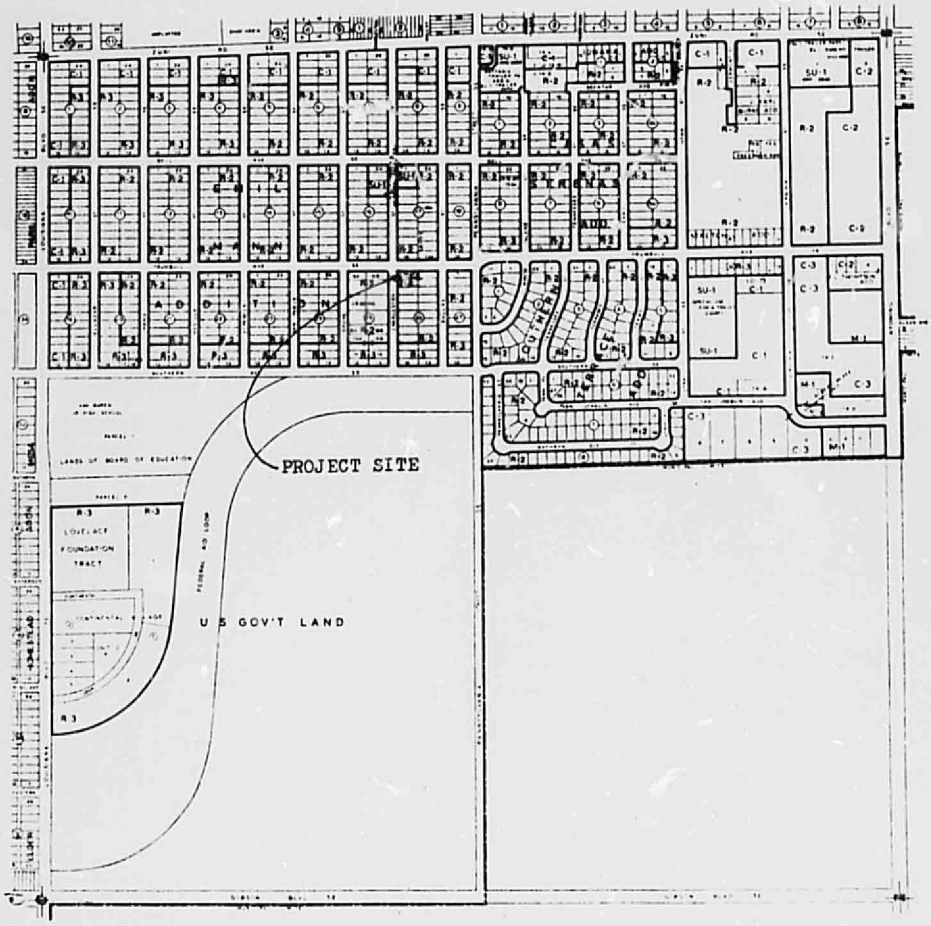
Capacity of ponding area :

85.6'x 7.6'x 1.4'	=	697.98 cu ft.
Required ponding capacity	=	687.73 cu. ft.
Excess ponding capacity	=	10.25 cu. ft.

Volume of runoff from parking area to Charleston Avenue

$$\frac{2.8}{12} \times 2269 \text{ sq. ft.} \times 1.0 = 529.43 \text{ cu. ft.}$$

Summary:
It is recommended that this development be approved since the computations show that the proposed design is adequate to satisfactorily handle a 100-year storm.



LOCATION MAP